

# DIAMOND ALKALI CO.

## NEW JERSEY

EPA ID# NJD980528996



**EPA REGION 2**  
**CONGRESSIONAL DIST. 13**  
Essex County  
Newark

**Other Names:**  
**Diamond Shamrock Site**  
**80 & 120 Lister Avenue Property**

## Site Description

---

The Diamond Alkali Superfund Site includes the former pesticides manufacturing facility and surrounding properties at 80 and 120 Lister Avenue in Newark, New Jersey, and the adjoining six mile reach of the Passaic River known as the Passaic River Study Area. Because the problems posed by the upland part of the site are significantly different from those in the Passaic River, the site was divided into two parts. The 80 and 120 Lister Avenue properties have been designated as operable unit 1 and the Passaic River Study Area as operable unit 2 of the project. The area is both densely populated and heavily industrialized. Approximately 40,000 people live within 1 mile of the site; 367,000 people reside within 3 miles of the site.

From 1951 to 1969, the Diamond Alkali Company (subsequently known as the Diamond Shamrock Chemicals Company) owned and operated a pesticides manufacturing plant at 80 Lister Avenue, Newark, New Jersey. The property has been used for manufacturing by numerous companies for more than 100 years. The mid-1940s marked the beginning of the manufacturing operations related to the current site conditions, including the production of DDT and phenoxy herbicides. Subsequent owners used the property until 1983, when sampling at the site and from the Passaic River revealed high levels of dioxin. Dioxin (also known as 2,3,7,8-tetrachlorodibenzo-p-dioxin or TCDD) is an extremely toxic chemical and an unwanted byproduct of the manufacture of certain chemicals which were produced at the site. Since Occidental Chemical Corporation (OCC) is a successor to the Diamond Shamrock Chemicals Company, OCC is required to perform cleanup activities at the site.

### Site Responsibility:

This site is being addressed through a combination of Federal, State, and potentially responsible party actions.

### NPL LISTING HISTORY

Proposed Date: 09/01/83  
Final Date: 09/01/84

## Threats and Contaminants

---



Dioxin, pesticides and other hazardous substances have been found in the soil at 80 Lister Avenue and, to a lesser extent, at 120 Lister Avenue. Other properties in the area were also contaminated by dioxin, but cleanup work has been completed at these properties (landfill containment, on-site). Dioxin, pesticides, volatile organic compounds (VOCs) and other hazardous substances have been found in groundwater at the site. Persons who have contacted or ingested the contaminated soil may be at risk. Although groundwater is not used as a source of drinking water, groundwater migrates toward the Passaic River where it may add to the contamination of fish and shellfish. However, the containment system now prevents flow of groundwater into the river. Dioxin has also been found in sediment samples taken from the Passaic River and from nearby waterways. The river, downstream of Dundee Dam, is under a fish and shellfish advisory pursuant to the New Jersey Administrative Code 7:25-14, 18A, based on PCB, dioxin, and/or chlordane contamination. Contamination in the Passaic River is being addressed as a separate operable unit. EPA and NJDEP posted fishing advisory signs within the study area and beyond.

## Cleanup Approach

---

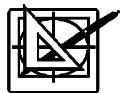
The site property is being addressed in several stages: immediate actions, an interim remedial action and a more permanent long-term remedy. A six-mile stretch of the Passaic River, which includes a section immediately adjacent to the 80-120 Lister Avenue properties, is being evaluated under a Remedial Investigation and Feasibility Study for potential long-term remedies.

## Response Action Status

---



**Immediate Actions:** The dioxin discovery led to the 80 Lister Avenue property being secured by a fence and by twenty-four hour security guard service. Exposed soils on the property were covered with geofabric to prevent potential migration of contamination. At other properties, dioxin-contaminated soils and debris were removed by excavation, vacuuming, and other means, and were transferred to 120 Lister Avenue for storage. This work was initiated by the EPA and the New Jersey Department of Environmental Protection (NJDEP) in 1983 and was taken over by the Diamond Shamrock Chemicals Company under State Administrative Consent Orders.



**Interim Remedy:** In 1987, EPA selected an interim remedy for the 80 and 120 Lister Avenue properties that relies on measures including (1) construction of a slurry wall and flood wall around the properties, (2) installation of a cap over the properties, and (3) pumping and treating of groundwater to reduce the migration of contaminated groundwater. Under a Consent Decree with EPA and the State, Maxus Energy Corp, on behalf of OCC, submitted design plans to EPA for construction of the interim remedy. Prior to approving the design plans, EPA, at the request of the Community Advisory Group (CAG), explored the potential for implementing an alternative to the interim remedy selected in 1987. EPA considered innovative technologies as well as on-site and off-site thermal treatment options. EPA met with the CAG throughout the summer of 1998 and due to the nature of the material to be remediated, new innovative technologies were

deemed inappropriate at this time, and no off-site option was available. One alternative, on-site incineration, was deemed technically feasible, however, the local community was opposed to on-site incineration. Therefore, EPA approved the design plans for the interim remedy. Maxus Energy Corporation (also known as Chemical Land Holdings, Inc. and now known as Tierra Solutions, Inc.) selected its construction contractor after approval of the design plans and specifications. Construction began in April, 2000 and was completed in December 2001.

**Long-term Remedy:** Under the Consent Decree, reevaluations of the remedy will be performed every two years (subsequent to construction completion) to determine if a more permanent and protective remedy can be implemented.

**Passaic River Study Area:** Chemical Land Holdings, Inc. (CLH), on behalf of OCC, under an Administrative Order on Consent (AOC) executed on April 20, 1994, is conducting a Remedial Investigation/Feasibility Study (RI/FS) in a six-mile stretch of the Passaic River. The objectives of the study are to determine: (1) the spatial distribution and concentration of dioxins, furans, PCBs, PAHs, pesticides and metals, both horizontally and vertically in the Passaic River sediments; (2) the primary human and ecological receptors of contaminated sediments; and (3) the transport of contaminated sediment within the Study Area. Recently, Congress appropriated funds to the U.S. Army Corps of Engineers (Corps) for a habitat restoration study of the Lower Passaic River Basin. The Corps has been in close consultation with EPA because of the RI/FS work in the six-mile stretch, which is a subset of the Lower Passaic River Basin. While the Corps' study focuses on navigation and the creation and enhancement of aquatic habitats, the Superfund study focuses on characterizing the nature and extent of hazardous substances, assessing the human health and ecological risks posed by such substances, and evaluating potential cleanup options. The two studies have many complementary components and EPA, the Corps, and the local sponsor, the Office of Maritime Resources / New Jersey Department of Transportation, are working together to coordinate the studies which will lead to a comprehensive solution to the complex problems posed by the contaminated sediments. CLH has nearly completed the RI tasks in the six-mile stretch.

## Enforcement Status



In 1984, the State and Diamond Shamrock Chemicals Company entered into two Administrative Consent Orders, the first for the investigations and immediate response work at 80 Lister Avenue and the second for investigations and immediate response actions at other properties including 120 Lister Avenue. A Consent Decree was filed in 1989 between OCC, the State, and EPA requiring OCC to undertake cleanup activities at the site. The U.S. District Court approved the Consent Decree in November of 1990. This work is currently being conducted under EPA oversight. In addition, Chemical Land Holdings, Inc. (CLH), on behalf of OCC, entered into an Administrative Order on Consent (AOC) on April 20, 1994 with EPA. Under this AOC, CLH is conducting an RI/FS in a six-mile stretch of the Passaic River.

## Cleanup Progress



The current on-site construction work has reduced risks associated with the 80 and 120 Lister Avenue properties.

## Site Repositories



Newark Public Library, 5 Washington Street, Newark, NJ 07102

Elizabeth Public library, 11 South Broad Street, Elizabeth, NJ 07202

U.S. Environmental Protection Agency Records Center, 290 Broadway, 18th Floor, NY, NY 10007